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Laurelee A. Duncan National Starch & Chemical Company Box 6500 Bridgewater, NJ 08807				
EXAMINER TRAN LIEN, THUY				
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 1203

Application Number: 09/817,419
Filing Date: March 26, 2001
Appellant(s): SHI ET AL.

Karen Kaiser
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 22, 2003.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is correct.

(6) *Issues*

The appellant's statement of the issues in the brief is correct.

(7) *Grouping of Claims*

Appellant's brief includes a statement that claims 1 and 3-41 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) *Claims Appealed*

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) *Prior Art of Record*

5,972,413	Whitney et al	10/1999
5,300,145	Ferguson et al.	4/1994

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

I. Claims 1,4,5,8,10,11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Whitney et al.

Whitney et al disclose a process for cooking cereal grains. The process comprises the step of heating grains which have been hydrated to have a moisture content of from about 28-36%. The heating is done in water at a temperature of from about 95-100 degree C for about 20-40 minutes. The grains are heated until they are substantially fully cooked. The grain may be selected from the group consisting of rice, oat, barley, maize and rye. (See columns 2-3)

The Whitney et al process is the same as the claimed process. The moisture content and the heating temperature and time are within the ranges claimed. The properties as claimed are inherent in the Whitney et al grain because the grain is subjected to the same treatment as claimed. The limitation of "the starch does not have its granular structure and birefringence completely destroy" is equivalent to the disclosure of "substantially fully cooked" because substantially fully cook means the grains are not completely fully cooked; thus, this means the starch does not have its granular structure and birefringence completely destroy.

II. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

III. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

IV. Claims 3,6-7,9 and 16-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whitney et al in view of Ferguson et al.

The teaching of Whitney et al is described above. Whitney et al do not disclose a grain having an amylose extender genotype as claimed, isolating the starch from the grain and the food products as claimed.

Ferguson et al disclose a plant having recessive amylose extender genotype in which the starch comprises at least 75% amylose. The starch is extracted from the plant and the amylose content is measured by butanol fractionation/ exclusion chromatography measurement. (See column 3)

It would have been obvious to select any known grain as the starting grain material in the Whitney et al process because they do not limit the process to a specific grain and disclose that a variety of grain can be used in the method. The selection of the type of grain depends on the intended use of the grain and would have been an obvious matter of choice. Grain having amylose characteristics as claimed is known as shown by Fergason et al. It would also have been obvious to isolate the starch from the grain when pure starch is desired. Such method is well known in the art and is also taught by Fergason et al. It would also have been obvious to use the grain in various food products. This is well known in the art because cereal grains are commonly used to make cereal products or other products such as cracker, bread etc..

(11) Response to Argument

On page 8 of the appeal brief, appellant argues Whitney teaches full gelatinization and this is in contrast with claim 1 which limits to starch in which the granules in the heat-treated grain are not completely destroyed and thus are not fully gelatinized. While Whitney et al might teach completely cooked grain, they also teach the grain can be substantially fully cooked as disclosed on column 3 lines 1-3 and claim 1. Substantially fully cook means the grain is not completely cooked and thus the starch does not have its granular structure and birefringence completely destroy. Appellant argues to determine the meaning of cooked or gelatinization, one skilled in the art would look at the entire disclosure of Whitney and the teaching of Whitney indicates that if the starch is not fully gelatinized, the grain will not shred properly. This argument is not

persuasive because if the entire teaching of Whitney is considered, then it is clear that Whitney teaches the grains can be substantially fully cooked and not totally cooked. This is found on column 3 lines 1-3 and also in the claims. Appellant does not have any evidence to show that if the starch is not fully gelatinized, the grain will not shred properly and will have undesirable eating properties. The examiner does not disagree with appellant that the starch is gelatinized in the Whitney product; however, the starch does not have to be totally gelatinized as argued by applicant. The starch can be 99.9...% gelatinized and still meets the claimed limitation; not completely destroyed can be almost completely destroyed. Appellant argues the claimed language must be read in conjunction with the specification. Only the limitation in the claim is considered in applying prior art; in any event, even if the claimed language is read in conjunction with the specification, the same interpretation still applies because the same language is used in the specification. Appellant argues the specification clearly indicates the degree of gelatinization and that is the starch is not fully gelatinized. The starch is not fully gelatinized but it can be substantially fully gelatinized which is what Whitney teaches. On page 9 of the appeal brief, appellant states the term "granular" is defined as a starch that retains at least part of its granular structure, thereby exhibiting some crystallinity so that the granules are birefringent. This description does not give the degree of gelatinization. What is "some crystallinity"?; .001%, .5%, .2%, 2% or what. When the grain is substantially cooked and not completely cooked, the starch will exhibit some crystallinity. Furthermore, the cooking condition with respect to moisture content, time and temperature disclosed in Whitney falls within the range claimed so the

same end result must be obtained, whatever this result is. On page 9 of the appeal brief, appellant states the term "substantially" in Whitney is intended to mean that while it is the intent that all the grain be gelatinized, one practicing the art would fall within the invention if a few grains are not gelatinized. This is appellant own definition of the term; the examiner cannot find this disclosure anywhere in the reference and appellant has not submitted any evidence to support this definition. However, even if this definition is applied, the reference stills meets the claimed limitation because the few grains that are not gelatinized will not have their starch destroy; thus, the starch does not have its granular structure and birefringence completely destroyed.

On page 9 of the appeal brief, appellant makes reference to the declaration filed on March 11, The declaration is not found to be persuasive. The declaration states the Whitney et al product is substantially fully cooked and no longer birefringent under polarized light. The showing in the micrographs is inconclusive; there is no explanation as to how the micrographs are interpreted. The cooking condition with respect to the moisture content, temperature and time disclosed in Whitney et al falls within the range claimed and the limitation of "not completely destroyed" does not exclude substantially fully cooked. Not completely destroyed can be almost completely destroyed; the starch can have its granular structure and birefringence 99.9...% destroyed and still meets the claimed limitation. When the granular structure of the starch is 99.9% destroy, it is possible that it will have the characteristics as shown in the declaration. The showing in the declaration is not a true comparative showing because wheat is the grain used for the Whitney sample and corn is used for the present application sample. Wheat and

corn are different. For a true comparative showing, the same type of grain should be used. The declaration also shows only one example which does not give a reliable result because the result obtained might be due to experimental error. The showing is not commensurate with the scope of the claim because corn is used as the grain and the claim broadly recite grain which includes many other types of grain. Furthermore, the declaration only shows 1 moisture content, 1 temperature and 1 time within the broad range claimed. Will the same result be obtained if the grain is treated for 24 hours at 130 degree C and will the same result be obtained if the grain is wheat instead of corn? The declaration states the cooked wheat of Whitney is already gelatinized and thus no endothermic event is observed from the DSC data. The Whitney product does not have to be fully cooked; it can be substantially fully cooked which means the starch is not completely destroyed. The declaration does not give any explanation as to how a grain which is cooked using the lower end of the time parameter and the lower end of the temperature parameter claimed will be more fully cooked than a grain that is cooked within the range of time and temperature claimed. The only possible explanation would be the use of different starting material. However, the claims do not limit to any specific grain and Whitney et al disclose the grain can be corn. As stated above, the time, temperature and moisture condition of the Whitney et al fall within the claimed parameters; thus, the same result is obtained.

With respect to the 103 rejection, appellant makes the same argument as above. The argument is not persuasive for the same reason set forth above. Additionally, appellant argues on page 10 that the amended claims differ from those of Whitney in

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that the starch is not gelatinized. This argument is not persuasive because it is not commensurate in scope with the claims. The claims do not recite that the starch is not gelatinized. The limitation of "the starch does not have its granular structure and birefringence completely destroy" is not the same as "the starch is not gelatinized". Appellant argues a limitation that is not found in the claims. The starch in the Whitney et al process can have its granular structure and birefringence 99.9% etc. destroyed and still meets the claimed limitation.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

December 3, 2003

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